

Directions:

Evaluate the student by entering the appropriate number to indicate the degree of competency achieved.

Rating Scale (0-6):

- 0 No Exposure** – no experience/knowledge in this area; program/course did not provide instruction in this area
- 1 Unsuccessful Attempt** – unable to meet knowledge or performance criteria and/or required significant assistance
- 2 Partial Demonstration** – met some of the knowledge or performance criteria with or without minor assistance
- 3 Knowledge Demonstrated** – met knowledge criteria without assistance at least once
- 4 Performance Demonstrated** – met performance criteria without assistance at least once
- 5 Repeated Demonstration** – met performance and/or knowledge criteria without assistance on multiple occasions
- 6 Mastered** – successfully applied knowledge or skills in this area to solve related problems independently

| 0 | 1 | 2 | 3 | 4 | 5 | 6 | A. Describe and safely interact with all basic heavy equipment systems, including equipment, materials, tools, and applied academic skills | Notes: |
|---|---|---|---|---|---|---|--|--------|
| | | | | | | | 1. Operate safely in work place, using safety rules and regulations. | |
| | | | | | | | 2. Inspect work areas for safe work environment. | |
| | | | | | | | 3. Identify and use hand and power tools. | |
| | | | | | | | 4. Use reference books, parts books and charts. | |
| | | | | | | | 5. Perform basic mathematical calculations. | |
| | | | | | | | 6. Test performance of completed repair. | |
| | | | | | | | 7. Use precision measurement tools. | |
| | | | | | | | 8. Perform basic computer operation (e.g. keyboarding, software manipulation, equipment diagnostics, etc.). | |
| | | | | | | | 9. Demonstrate proper handling of removed/failed parts. | |
| | | | | | | | 10. Adhere to environmental/regulatory requirements/codes. | |
| | | | | | | | Other: | |

| 0 | 1 | 2 | 3 | 4 | 5 | 6 | B. Perform preventative maintenance | Notes: |
|---|---|---|---|---|---|---|--|--------|
| | | | | | | | 1. Demonstrate safety procedures and precautions. | |
| | | | | | | | 2. Evaluate cooling system. | |
| | | | | | | | 3. Check engine lubrication system pressure and level. | |
| | | | | | | | 4. Check air intake and exhaust system. | |
| | | | | | | | 5. Draw lubrication and/or oil sample. | |
| | | | | | | | 6. Evaluate oil conditions visually. | |
| | | | | | | | 7. Check linkage adjustments. | |
| | | | | | | | 8. Replace filters as recommended. | |
| | | | | | | | 9. Inspect, adjust, and maintain fifth wheel. | |

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| | | | | | | | | 10. Inspect steering linkage for wear. | |
| | | | | | | | | 11. Inspect and adjust brakes. | |
| | | | | | | | | 12. Perform air brake system test. | |
| | | | | | | | | 13. Change engine oil. | |
| | | | | | | | | 14. Change transmission and/or differential oils. | |
| | | | | | | | | 15. Change power steering fluid. | |
| | | | | | | | | 16. Lubricate chassis components. | |
| | | | | | | | | 17. Replace transmission and/or differential filters. | |
| | | | | | | | | Other: | |

| 0 | 1 | 2 | 3 | 4 | 5 | 6 | C. Maintain electrical/electronic systems | Notes: |
|---|---|---|---|---|---|---|---|--------|
| | | | | | | | 1. Demonstrate safety procedures and precautions. | |
| | | | | | | | 2. Demonstrate basic electronic theory and component operation. | |
| | | | | | | | 3. Solve problems with basic electricity formulas. | |
| | | | | | | | 4. Demonstrate basic use of diagnostic service tools. | |
| | | | | | | | 5. Perform diagnostic tests of electrical and electronic components and evaluate results. | |
| | | | | | | | 6. Demonstrate use of diagrams and schematics. | |
| | | | | | | | 7. Remove and replace electrical and electronic components. | |
| | | | | | | | 8. Demonstrate proper use of Digital Volt Ohmmeter. | |
| | | | | | | | 9. Identify circuit problems including wire and connector maintenance. | |
| | | | | | | | Other: | |

| 0 | 1 | 2 | 3 | 4 | 5 | 6 | D. Maintain basic fluid power systems | Notes: |
|---|---|---|---|---|---|---|--|--------|
| | | | | | | | 1. Demonstrate safety procedures and precautions specific to fluid power. | |
| | | | | | | | 2. Identify basic hydraulic and pneumatic components and their operations. | |
| | | | | | | | 3. Identify basic principles of hydraulics and pneumatics. | |
| | | | | | | | 4. Demonstrate use of fluid power diagrams, schematics, and ISO symbols. | |
| | | | | | | | 5. Test pressures and flow rates using appropriate tooling. | |
| | | | | | | | Other: | |

| 0 | 1 | 2 | 3 | 4 | 5 | 6 | E. Maintain HVAC systems | Notes: |
|---|---|---|---|---|---|---|--|--------|
| | | | | | | | 1. Demonstrate safety procedures and precautions specific to HVAC systems. | |
| | | | | | | | 2. Explain basic HVAC theory and operation. | |

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| | | | | | | | | 3. Perform troubleshooting and diagnostic testing of HVAC systems. | |
| | | | | | | | | 4. Remove and replace heater and air conditioning components. | |
| | | | | | | | | 5. Acquire appropriate license for refrigerant handling (e.g. evacuate, reclaim, and charge system per specifications). | |
| | | | | | | | | Other: | |

| 0 | 1 | 2 | 3 | 4 | 5 | 6 | F. Maintain steering and suspension-related components | Notes: |
|---|---|---|---|---|---|---|---|---------------|
| | | | | | | | 1. Demonstrate safety procedures and precautions specific to steering and suspension. | |
| | | | | | | | 2. Check and adjust axle alignment. | |
| | | | | | | | 3. Inspect and service steering- and suspension-related components. | |
| | | | | | | | 4. Remove and replace steering, suspension, and front axle components. | |
| | | | | | | | Other: | |

| 0 | 1 | 2 | 3 | 4 | 5 | 6 | G. Maintain braking systems | Notes: |
|---|---|---|---|---|---|---|--|---------------|
| | | | | | | | 1. Demonstrate safety procedures and precautions specific to brakes. | |
| | | | | | | | 2. Identify and troubleshoot cam, wedge, and disc brakes systems. | |
| | | | | | | | 3. Inspect, test, and service anti-lock brake systems. | |
| | | | | | | | Other: | |

| 0 | 1 | 2 | 3 | 4 | 5 | 6 | H. Maintain drive trains, trucks, and other on-highway components | Notes: |
|---|---|---|---|---|---|---|--|---------------|
| | | | | | | | 1. Demonstrate safety procedures and precautions specific to drive trains. | |
| | | | | | | | 2. Inspect, remove, and replace clutch assembly and flywheel. | |
| | | | | | | | 3. Inspect, remove, replace and adjust clutch free play and linkage. | |
| | | | | | | | 4. Diagnose and repair automatic/manual transmissions and systems. | |
| | | | | | | | 5. Diagnose and replace wheel bearings and wheel seals. | |
| | | | | | | | 6. Troubleshoot, and repair and replace drive line and components. | |
| | | | | | | | 7. Diagnose and repair differential/power dividers. | |
| | | | | | | | 8. Inspect, test, and service electronic drive train control systems. | |
| | | | | | | | Other: | |

| 0 | 1 | 2 | 3 | 4 | 5 | 6 | I. Maintain drive train components | Notes: |
|---|---|---|---|---|---|---|--|---------------|
| | | | | | | | 1. Demonstrate safety procedures and precautions specific to drive trains. | |
| | | | | | | | 2. Perform drive train diagnostics. | |
| | | | | | | | 3. Troubleshoot drive train electronics. | |

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| | | | | | | | | 4. Diagnose and repair power shift transmission. | |
| | | | | | | | | 5. Diagnose and repair steering clutches and brakes. | |
| | | | | | | | | 6. Diagnose and repair torque converters and dividers. | |
| | | | | | | | | 7. Remove and install transmission. | |
| | | | | | | | | 8. Remove and install differential. | |
| | | | | | | | | 9. Disassemble and assemble final drive. | |
| | | | | | | | | 10. Disassemble and assemble planetary. | |
| | | | | | | | | 11. Disassemble and assemble differential. | |
| | | | | | | | | 12. Perform undercarriage component repair and alignment. | |
| | | | | | | | | 13. Replace and adjust wheel bearings. | |
| | | | | | | | | 14. Describe operation of hydrostatic drive systems. | |
| | | | | | | | | 15. Describe operation of differential steering. | |
| | | | | | | | | Other: | |

| 0 | 1 | 2 | 3 | 4 | 5 | 6 | J. Maintain Engine and related systems | Notes: |
|---|---|---|---|---|---|---|---|--------|
| | | | | | | | 1. Demonstrate safety procedures specific to engines. | |
| | | | | | | | 2. Demonstrate knowledge of diesel engine theory and operation. | |
| | | | | | | | 3. Identify engine accessories. | |
| | | | | | | | 4. Identify engine subassemblies and systems. | |
| | | | | | | | 5. Diagnose and troubleshoot engine long block components. | |
| | | | | | | | 6. Diagnose and troubleshoot lube system components. | |
| | | | | | | | 7. Diagnose and troubleshoot cooling system components. | |
| | | | | | | | 8. Diagnose and troubleshoot air induction and exhaust system components. | |
| | | | | | | | 9. Diagnose and troubleshoot engine accessory component. | |
| | | | | | | | 10. Disassemble engine to subassemblies and reassemble. | |
| | | | | | | | 11. Perform engine tune-up. | |
| | | | | | | | Other: | |

| 0 | 1 | 2 | 3 | 4 | 5 | 6 | K. Maintain mechanical/electronic fuel systems | Notes: |
|---|---|---|---|---|---|---|--|--------|
| | | | | | | | 1. Test and/or replace injection nozzles and injectors. | |
| | | | | | | | 2. Time fuel injection pump. | |
| | | | | | | | 3. Identify and install fuel line hoses and connections. | |

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| | | | | | | | | 4. Remove and install injection pump. | |
| | | | | | | | | 5. Identify, diagnose, and repair the electronic fuel system and related components. | |
| | | | | | | | | 6. Remove, inspect, test, and reinstall electronic injectors; determine needed repairs. | |
| | | | | | | | | 7. Identify and diagnose high and low pressure fuel systems. | |
| | | | | | | | | 8. Identify and describe operational differences between mechanical and electronic fuel systems (mechanical, electronic, and hydraulic actuation). | |
| | | | | | | | | Other: | |

| 0 | 1 | 2 | 3 | 4 | 5 | 6 | L. Perform basic welding skills (optional) | Notes: |
|---|---|---|---|---|---|---|---|--------|
| | | | | | | | 1. Demonstrate safety procedures and precautions specific to welding. | |
| | | | | | | | 2. Use cutting torch. | |
| | | | | | | | 3. Weld with arc welder in flat position. | |
| | | | | | | | 4. Braze fittings. | |
| | | | | | | | 5. Braze light-gauge material in flat position. | |
| | | | | | | | 6. Weld with gas welder in flat position. | |
| | | | | | | | Other: | |

| 0 | 1 | 2 | 3 | 4 | 5 | 6 | M. Demonstrate leadership skills in the classroom, industry, and society | Notes: |
|---|---|---|---|---|---|---|--|--------|
| | | | | | | | 1. Demonstrate understanding of Skills USA/VICA, its structure and activities. | |
| | | | | | | | 2. Describe the effect of one's personal values on leadership. | |
| | | | | | | | 3. Perform tasks related to effective personal management skills. | |
| | | | | | | | 4. Demonstrate interpersonal skills. | |
| | | | | | | | 5. Demonstrate effectiveness in oral and written communication. | |
| | | | | | | | 6. Maintain code of professional ethics. | |
| | | | | | | | 7. Maintain good professional appearance. | |
| | | | | | | | 8. Perform basic tasks related to employment skills. | |
| | | | | | | | 9. Perform basic parliamentary procedures in group meeting. | |
| | | | | | | | Other: | |